

$$الف) \lim_{n \rightarrow r^+} \frac{r_{n+d}}{n+1} = \frac{r+d}{r} = r$$

$$ب) \lim_{n \rightarrow r^-} \frac{r_{n+d}}{n+1} = \frac{r}{r} = r \quad (1)$$

$$2) \lim_{n \rightarrow r} \frac{r_{n+d}}{n+1} = \frac{r}{r} = r$$

$$د) \lim_{n \rightarrow \infty} \frac{r_{n+v}}{n+1} = \frac{v}{n} = 0$$

$$الف) \lim_{n \rightarrow r^-} r[n] - r = r(r) - r = r$$

$$ب) \lim_{n \rightarrow r^-} r[n] = \left[\frac{r}{r} - r \right] = r \quad (2)$$

$$ج) \left[\lim_{n \rightarrow r^-} r[n] \right] = 1$$

$$د) \left[\lim_{n \rightarrow r^+} r[n] \right] = 1$$

$$الف) \lim_{n \rightarrow r^-} \frac{r[n]+1}{r} = \frac{r(r)+1}{r} = r$$

$$ب) \lim_{n \rightarrow r^-} \left[\frac{r_{n+1}}{r} \right] = \left[\frac{1}{r} \right] = r \quad (10)$$

$$ج) \left[\lim_{n \rightarrow r^-} \frac{r_{n+1}}{r} \right] = r$$

$$د) \left[\lim_{n \rightarrow r^+} \frac{r_{n+1}}{r} \right] = r$$

$$الف) \lim_{n \rightarrow 1} \frac{n-d}{n^2-4n+d} \rightarrow \lim_{n \rightarrow 1} \frac{n-d}{n^2-4n+d} = \frac{-f}{0^-} = +\infty \quad (15)$$

$$\frac{-f}{0} \rightarrow \lim_{n \rightarrow 1} \frac{n-d}{n^2-4n+d} = \frac{-f}{0^+} = -\infty$$

$$ب) \lim_{n \rightarrow r} \frac{n-f}{n^2-4n+9} \rightarrow \lim_{n \rightarrow r^+} \frac{n-f}{n^2-4n+9} = \frac{-1}{0^+} = +\infty$$

$$\frac{-1}{0} \rightarrow \lim_{n \rightarrow r^-} \frac{n-f}{n^2-4n+9} = \frac{-1}{0^-} = -\infty \quad (20)$$

$$الف) \lim_{n \rightarrow r} \left[\frac{-r_n}{-d} \right] - \left[\frac{d_n}{1d} \right] \rightarrow \lim_{n \rightarrow r^+} \left[\frac{-r_n}{-d} \right] - \left[\frac{d_n}{1d} \right] = -1 - (1d) = -2d$$

$$\lim_{n \rightarrow r^-} \left[\frac{-r_n}{-d} \right] - \left[\frac{d_n}{1d} \right] = -1 - 1d = -2d$$

$$ب) \lim_{n \rightarrow \frac{1}{r}} \left[\frac{-1}{n^f} \right] \rightarrow \lim_{n \rightarrow \frac{1}{r}} \left[\frac{-1}{n^f} \right] = \left[\frac{-1}{\frac{1}{r}} \right] = \left[-r \right] = -r$$

$$الف) \lim_{n \rightarrow 1} \left[\frac{r_n^f - r_n^f + r}{-r} \right] \rightarrow \lim_{n \rightarrow 1} \left[\frac{r_n^f - r_n^f + r}{-r} \right] = \frac{1 - 1 + r}{-r} = \frac{r}{-r} = -1$$

$$r_n^f (1 - n) \rightarrow \frac{1}{1 - n} \rightarrow \frac{1}{1 - 1} = \frac{1}{0} = \infty$$



